USGS science for a changing world

Earthquake Shaking **Green** Alert

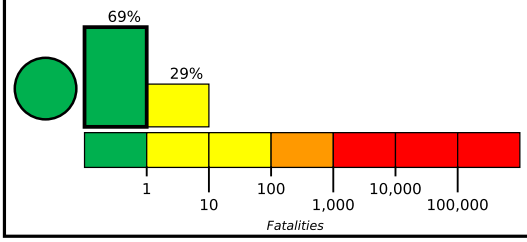
GSN USAID FROM THE AMERICAN PEOPLE ANSS

# M 4.8, 47km WNW of Petrolia, CA

Origin Time: 2020-03-22 16:27:38 UTC (Sun 08:27:38 local)
Location: 40.4255° N 124.8233° W Depth: 11.9 km
**FOR TSUNAMI INFORMATION, SEE: tsunami.gov**

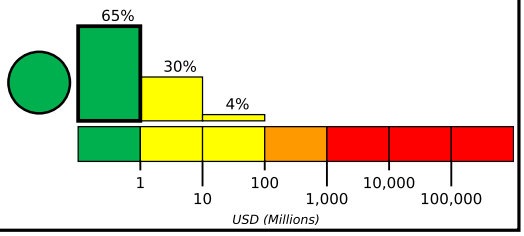
**PAGER Version 6**
Created: 6 hours, 4 minutes after earthquake

## Estimated Fatalities




Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.

## Estimated Economic Losses

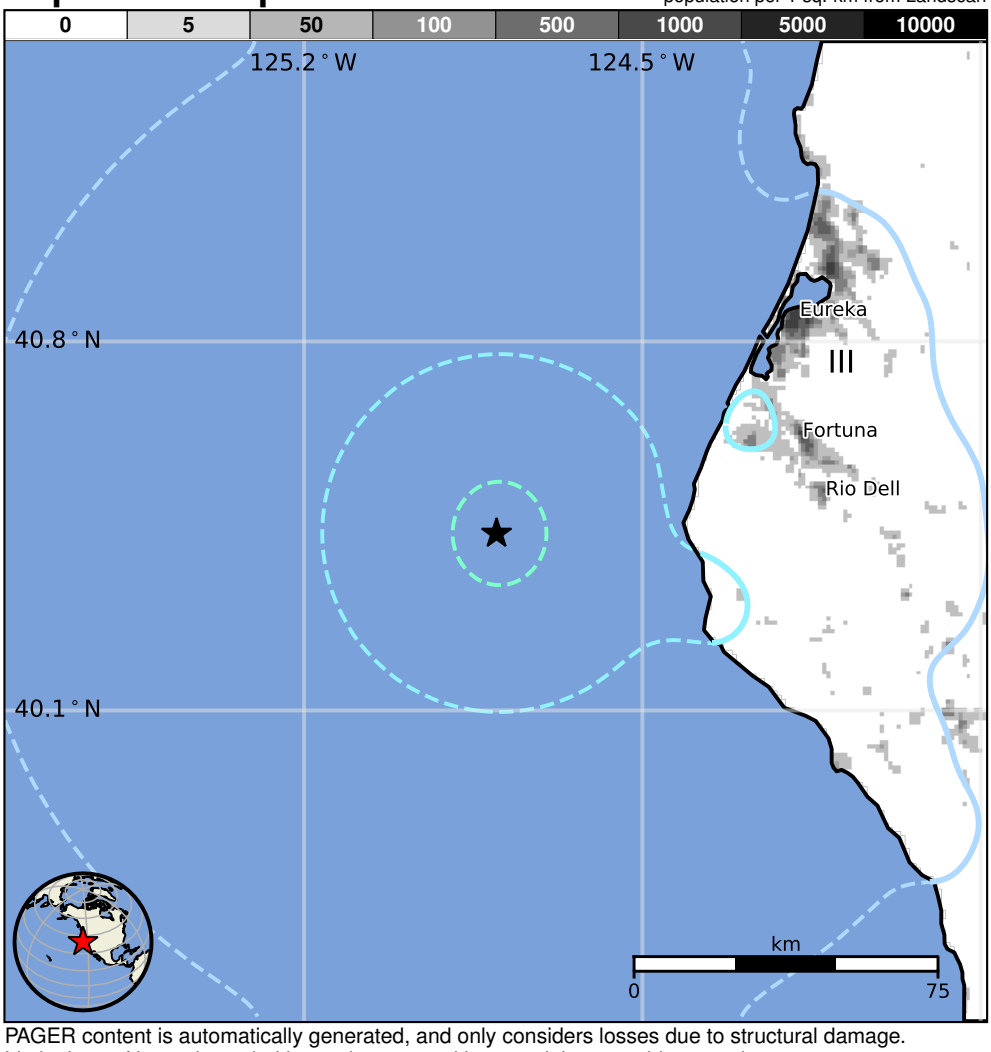



## Estimated Population Exposed to Earthquake Shaking

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ESTIMATED POPULATION EXPOSURE (k=x1000) | | –* | 132k | 3k | 0 | 0 | 0 | 0 | 0 | 0 |
| ESTIMATED MODIFIED MERCALLI INTENSITY | | I | II-III | IV | V | VI | VII | VIII | IX | X+ |
| PERCEIVED SHAKING | | Not felt | Weak | Light | Moderate | Strong | Very Strong | Severe | Violent | Extreme |
| POTENTIAL DAMAGE | Resistant Structures | None | None | None | V. Light | Light | Moderate | Mod./Heavy | Heavy | V. Heavy |
| | Vulnerable Structures | None | None | None | Light | Moderate | Mod./Heavy | Heavy | V. Heavy | V. Heavy |

*Estimated exposure only includes population within the map area.

## Population Exposure




## Structures

Overall, the population in this region resides in structures that are highly resistant to earthquake shaking, though some vulnerable structures exist. The predominant vulnerable building types are unreinforced brick masonry and reinforced masonry construction.

## Historical Earthquakes

| Date (UTC) | Dist. (km) | Mag. | Max MMI(#) | Shaking Deaths |
|---|---|---|---|---|
| 2000-09-03 | 307 | 5.0 | VI(77k) | 0 |
| 1980-11-08 | 87 | 7.3 | IX(16k) | 0 |
| 1993-09-21 | 314 | 6.0 | VI(47k) | 1 |

Recent earthquakes in this area have caused secondary hazards such as landslides and liquefaction that might have contributed to losses.

## Selected City Exposure

from GeoNames.org

| MMI | City | Population |
|---|---|---|
| IV | Ferndale | 1k |
| **III** | **Fortuna** | **12k** |
| III | Humboldt Hill | 3k |
| III | Bayview | 3k |
| **III** | **Eureka** | **27k** |
| III | Pine Hills | 3k |
| **III** | **Rio Dell** | **3k** |
| III | Myrtletown | 5k |
| III | Arcata | 17k |
| III | Bayside | 17k |
| III | McKinleyville | 15k |

bold cities appear on map. (k=x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.
**https://earthquake.usgs.gov/earthquakes/eventpage/nc73357410#pager**

**Event ID: nc73357410**